

PATENT SPECIFICATION

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(54) TELEVISION FAULT ANNUNCIATOR

(71) We, BRITISH BROADCASTING CORPORATION, of Broadcasting House, London, W1A 1AA, a British body corporate, do hereby declare the invention, for which we pray that a Patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

In many applications where low power unattended television transmitters are used, if a fault occurs on these transmitters the viewers receiving their outputs are very often unable to distinguish between a fault in the received signal and a fault in their receivers. This can give rise to alarm on the part of the viewer or even cause them to change channels which can, sometimes, be an undesirable action from the point of view of the broadcasting authority. This invention relates to a device which will enable information to be sent to the viewer giving information regarding known deficiencies in the picture. The deficiencies envisaged are those which lead to an inferior picture such as a very noisy picture due to transmitter power being reduced or loss of colour due to the high frequency part of the signal being lost, these being two examples.

According to the present invention, there is provided a television transmitter comprising monitoring apparatus adapted to detect at least one fault condition of the transmitter, means for deriving synchronizing pulses from the signal fed to the transmitter, and a character generator responsive to the synchronizing pulses and to the output of the monitoring apparatus to superimpose a video signal representing a predetermined message indicative of the fault condition on the video signal of the signal being transmitted only when the fault condition is detected.

A particular advantage of the invention is that only the viewers served by a faulty transmitter receive the message indicating the fault.

[Price 33p]

Preferably, the monitoring apparatus can distinguish between different fault conditions and the character generator is selectively capable, under control of the monitoring apparatus, of producing different video signals representing corresponding different messages such as "Transmitting on low power" and "Colour not being transmitted". The complexity of the messages which can be used depends upon the capacity of the character generator which can consist of a suitably programmed read only memory (ROM), such devices being commercially available.

If the transmitter receives a video input, the video signal from the character generator can be added in the video section of the transmitter. If the transmitter only handles RF, the video signal from the character generator can be modulated on to an RF carrier and then added to the signal received by the transmitter. An embodiment of the invention employing the latter alternative will now be described by way of example with reference to the block diagram constituting the sole Figure of the accompanying drawing.

The RF input is applied to a transmitter feeding an aerial 11. Monitoring apparatus 12 detects different fault conditions and sends corresponding fault signals to a logic circuit 13 which encodes each fault signal into a corresponding fault message by providing inputs to a ROM character generator 14 and store for the messages. The character generator is of known type capable of generating in each of a succession of character locations any one of the letters of the alphabet or a space. The generation of the symbols and the establishing of the character positions are synchronised in known manner to the scanning raster of the television signal by applying synchronising pulses to the character generator. These pulses are derived from the incoming RF signal by a demodulator and synchronising pulse separator 15.

5 The signals from the logic circuit 13 enter
 codes in a succession of storage locations in
 the store included in the character
 generator 14, these locations corresponding
 to the succession of character positions.
 Thus, for the message "Colour not being
 transmitted", the codes would run C, O, L,
 O, U, R, space, N, O, T, space, etc.
 10 The character generator 14 responds to
 these codes and the contents of the ROM to
 generate in known way, digital signals so
 synchronised with respect to the field and
 line synchronising pulses as to establish a
 15 video signal representing the message set up
 by the logic circuit 13, suitably positioned
 on the picture. The video signal is
 modulated on to the RF carrier by a
 modulator 16 and added to the output of the
 transmitter 10 at a later stage thereof.
 20 Although the fault message can be displayed
 so long as the fault persists it is preferred
 to flash the message at intervals, say 10 second
 displays every 2 minutes. To this end the
 character generator 14 can be gated on and
 25 off by a timer 17 which is triggered by the
 monitor 12 and establishes the message
 flashing sequence. When the fault is cured,
 the message automatically ceases.
 30 There is obviously great flexibility of
 design as to the faults to be distinguished
 and the nature of the messages to be trans-
 mitted. For example, in a Welsh language
 programme, the message can be given in
 Welsh or in both Welsh and English.
 35 WHAT WE CLAIM IS:—
 1. A television transmitter comprising
 monitoring apparatus adapted to detect at

least one fault condition of the transmitter,
 means for deriving synchronizing pulses
 from the signal fed to the transmitter, and a
 character generator responsive to the
 synchronizing pulses and to the output of
 the monitoring apparatus to superimpose a
 video signal representing a predetermined
 message indicative of the fault condition on
 the video signal of the signal being trans-
 mitted only when the fault condition is
 detected.

2. A television transmitter according to
 claim 1, wherein the monitoring apparatus is
 adapted to distinguish between different
 fault conditions and the character generator
 is adapted selectively to superimpose under
 control of the monitoring apparatus, dif-
 ferent video signals representing different
 messages corresponding to the different
 fault conditions on the video signal of the
 signal being transmitted.

3. A television transmitter according to
 claim 1 or 2, wherein the transmitter
 receives an RF signal, comprising means for
 modulating the video signal to be super-
 imposed on the video signal of the signal
 being transmitted on to a carrier and for
 adding the modulated carrier to the signal
 received by the transmitter.

4. A television transmitter substantially as
 hereinbefore described with reference to,
 and as illustrated in, the accompanying
 drawing.

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